Geometry **Name:**
Drawing Conclusions

For each of the following "given" statements, state a reasonable conclusion. Then, give a reason for your conclusion. It is often helpful to sketch a diagram.

Example: 1. $m\angle 1 + m\angle 2 = 180°$
2. $\angle 1$ and $\angle 2$ are supplementary 2. Def. of supplementary

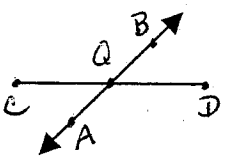
A.) 1. X is the midpoint of $\overline{AB}$
2. 2.

B.) 1. $\overrightarrow{AB}$ bisects $\angle XAC$
2. 2.

C.) 1. $m\angle 1 + m\angle 2 = 90°$
2. 2.

D.) 1. $\angle 1$ and $\angle 2$ are a linear pair
2. 2.
or
2. 2.

E.) 1. $\overrightarrow{AB}$ bisects $\overline{CD}$ at Q



2. 2.
or
2. 2.
or
2. 2.

F.) 1. $\angle 1 \cong \angle 2$
2. 2.

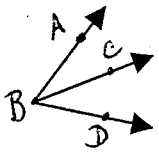
G.) 1. $\angle 1$ and $\angle 2$ are supplementary
2. 2.

H.) 1. $\overrightarrow{AR}$ and $\overrightarrow{AT}$ are opposite rays
2. 2.

I.) 1. $\angle XYZ$ is a right angle
2. 2.

J.) 1. Coplanar segs $\overline{AB}$ and $\overline{CD}$ do not intersect
2. 2.

K.) 1. $\angle ABC \cong \angle CBD$



2. 2.

L.) 1. $m\angle 1 + m\angle 2 = 180^\circ$
2. 2.

M.) 1. $m\angle 1 = m\angle 2$
2. 2.

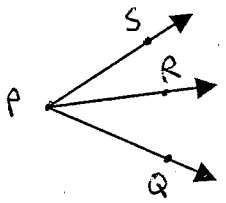
N.) 1. $\angle 1$ and $\angle 2$ are complementary
2. 2.

O.) 1. $\overline{AB} \perp \overline{BC}$
2. 2.

Provide a reason for each statement in the following proof:

Given: $\overrightarrow{PR}$ bisects $\angle SPQ$

Prove: $2(m\angle RPQ) = m\angle SPQ$



Statements	Reasons
1. $\overrightarrow{PR}$ bisects $\angle SPQ$	1.
2. $\angle RPQ \cong \angle RPS$	2.
3. $m\angle RPQ = m\angle RPS$	3.
4. $m\angle RPQ + m\angle RPS = m\angle SPQ$	4.
5. $m\angle RPQ + m\angle RPQ = m\angle SPQ$	5.
6. $2(m\angle RPQ) = m\angle SPQ$	6.